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aQK495
.G74M33
2005



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Center
Bismarck, North Dakota

'Mandan' Canada wildrye



'Mandan'

Canada wildrye

Species Characteristics

Canada wildrye (*Elymus canadensis*), also known as nodding wildrye, is a short-lived, perennial bunchgrass. It is a cool-season grass that begins growth later in the spring and lasts longer in the summer than smooth brome grass. It is moderately drought-tolerant.

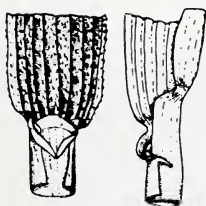
Habitat/Distribution

Canada wildrye grows on a wide array of soils, but grows best on porous, well-drained soils that are sandy, gravelly, or rocky. It is found in a variety of dry to moist, usually open habitats, including grasslands, ravines, drainage courses, stream banks, sandy shores and dunes, wooded areas along trails, rivers, and streams and disturbed areas along depressions, ponds or streams. Seedlings are vigorous and establish quickly, but are not highly competitive with other grasses. Growth begins late in the spring. It has good tolerance to salinity and tolerates shade very well. It is widely distributed throughout North America except in extreme southern and eastern locations. It is most common in the tall grass prairie region.

Plant Characteristics

- stems hollow and coarse
- plant height of 2 to 5 feet
- leaf blades flat or sometimes slightly curled, coarse, wide (up to 0.8 inches), waxy green, pointed
- claw-like auricles or earlike lobes extend from the leaf margins to clasp the stem

- curved, long awns on seed unit
- short-lived, decreasing in vigor a few years after establishment
- 115,000 seeds/pound average
- relatively self-pollinated, with some cross-pollination
- bunchgrass with very short rhizomes
- susceptible to leaf rust, stem rust, and ergot
- nodding, spike-type seed head



*Ligule
and
Auricle*

Schumacher, Charles, and Lyle Derscheid. *Identification of 22 Grasses Common in South Dakota*. Cooperative Extension Service, U.S. Department of Agriculture, South Dakota State University. FS 600.

‘Mandan’ Canada wildrye

‘Mandan’ is a variety that was released in 1946. It was developed at the Northern Great Plains Field Station at Mandan, North Dakota. Seeds were collected and bulked from plants found in central North Dakota on an upland site near Mandan, North Dakota, in 1935. Mass selections for leafiness, fineness of leaves, short stature, and resistance to stem rust were made on the progenies of two single plants at the field station. Seeds from the selected plants were then grown and increased as the variety Mandan.

According to the original release information from 1946, the variety was developed and released through the cooperative efforts of the Division of Forage Crops and Diseases, Bureau of Plant Industry, Soils, and Agricultural

Engineering, Agricultural Research Administration; Division of Nurseries, Soil Conservation Service (both of the U.S. Department of Agriculture), and the North Dakota Agricultural Experiment Station. Today, these agencies are USDA, Agricultural Research Service; USDA, NRCS Plant Materials Center; and the North Dakota Agricultural Experiment Station.

When selected in 1946, the main virtues of Mandan Canada wildrye were ease of establishment, rapid growth, and high seed and forage yields. The variety is superior to common Canada wildrye in several characteristics. The plants are finer, lower in height, and more leafy with the leaves being softer in texture. It is also longer-lived than many strains and has the ability to withstand grazing over a period of several years. It shows some susceptibility to rust but is more resistant than the other strains tested prior to the 1946 release of Mandan. It is the only known released variety of Canada wildrye adapted to the Northern Great Plains.

Uses

It is often an early successional component of prairie mixtures. It provides good forage quality during the early part of the grazing season but is generally considered inferior forage after it matures. It is fairly palatable to most livestock, and is rated good in energy value, but poor in protein value. It has fair to good palatability as food for wildlife. It also provides nesting, brood, winter and escape cover. It can be used as a rapid cover and site-stabilizer in seeding mixtures for roadside revegetation, critical areas, parks and recreational areas, prairie restoration, pasture plantings, landscaping, and floral arrangements. Exceptional seedling vigor and rapid establishment make Canada wildrye an

excellent species for use in erosion control seedings. Stands of Canada wildrye typically establish during the 1st year, reach peak production the 2nd or 3rd year, and then rapidly thin out. It is typically seeded in a mix with warm or cool-season grasses.

Adaptation

Mandan is adapted and recommended for use in the Northern Great Plains and Upper Midwest.

Establishment

Successful plantings can be made in early or late fall as well as in the spring. No nurse crop is needed. Establishment is relatively rapid, but germination may be slower than for other grasses such as crested wheatgrass. Deawned seed flows much more freely and uniform through a drill than seed that has not had the awns removed. This will increase the opportunity for a successful seeding. A full seeding rate in North Dakota averages 6.5 to 7.5 PLS lb/ac. Plants readily establish the year of seeding. In favorable growing conditions, a small seed harvest the year of establishment is possible. The average seed yields range from 150 to 300 lb/ac dryland and 400 to 1,100 lb/ac irrigated in the Northern Great Plains. The expected productive stand life is 3 to 5 years. Swathing and drying in the windrow works best for seed harvest. Seed should be processed to remove the awn in the cleaning procedure.

Forage Management

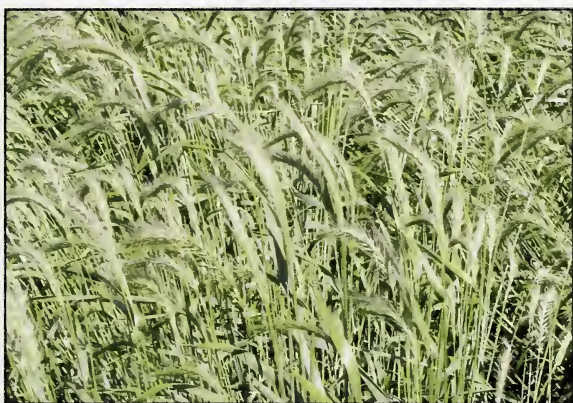
Canada wildrye should be cut just as the heads are emerging from the boot for good quality, nutritious hay. The plants should generally be greater than 5 inches before they should be grazed. Canada wildrye generally decreases in response to grazing.



Availability

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The Agricultural Research Service (Northern Great Plains Research Laboratory, Mandan, North Dakota) maintains the breeder seed of Mandan Canada wildrye. Foundation seed is grown and available from the Bismarck Plant Materials Center. Mandan Canada wildrye is readily available in the commercial seed market. Contact your local NRCS field office or the Bismarck PMC for use and availability of Mandan Canada wildrye.



For more information, contact:

USDA-NRCS Plant Materials Center

3308 University Drive

Bismarck, ND 58504

Phone: (701) 250-4330

Fax: (701) 250-4334

<http://Plant-Materials.nrcs.usda.gov>



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July 2005

